

Remarks

Accompanying this Request for Continued Examination (RCE) is a Petition to Revive. In this case, Applicants received a Final Office Action having a mailing date of 16 October 2002. Applicants filed a Response & Amendment on 16 December 2002 and received back a post card on 23 December 2002. In April of this year, Applicants' attorney received notice from the Examiner that the application had gone abandoned. The RCE has been prepared without reference to the December 16 Response & Amendment, i.e. the claims have been amended based on their October 16 status.

As an aid to the Examiner, the preceding clean version of the claims shows all the claims in the application, including the claims not amended hereby. Similarly, the marked-up version also includes the claims not amended hereby.

Claims 1, 6, 10-12, 15 and 16 have been amended and claims 18-24 have been added. Claims remaining in consideration are claims 1, 3-6, 8, 9, 11-13, 15, 16 and 18-24.

Claim Rejection – 35 U.S.C. §112

Claims 11-13 and 15-16 are rejected under 35 U.S.C. § 112. Applicants have amended claim 11 to recite “keeper” instead of “pawl.” Claim 16 has been amended to recite “a tension spring . . . for biasing the tensioning arm into a lower end position.” Other claims have been carefully reviewed for clarity and antecedent basis and some have been corrected accordingly or amended for readability.

Claim Rejection – 35 U.S.C. §103

Claims 1, 3-4, 6, 8-9, 11-13, and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent No. 4,770,093 to Gunther et al. in view of United States Patent No. 4,557,189 to Schaible. Neither Gunther nor Schaible disclose the structural limitation of “means for increasing a latch force as a bale increases in size.” According to the Examiner, Schaible teaches a resilient means for

increasing a latching force on the latching mechanism as bale size increased. It is believed that this conclusion is erroneous for reasons given below. Reconsideration is respectfully requested.

Schaible is the more pertinent reference. For convenience Fig. 1 of Schaible is attached. The pertinent numerals have been encircled in red and the rib (15) which serves as a rigid connection is highlighted in yellow. Schaible shows a rolled bale press having a front stationary part (2) and a rear part (3) which are locked together by means of a hook (8) that engages a fixed stop. See col. 3, lines 50-51; see also attached Fig. 1. The hook (8) is connected to the rear part (3) in two ways. First, the hook (8) is connected to lever (5), which is hinged to the rear part (3). See col. 3, lines 50-65. Second, the hook (8) is connected to a rib (15), and the rib (15) is connected to the rear part (3) via a fork head (12) that encompasses a stationary bolt (14). See col. 4, lines 4-11. The forked head (12) is connected to a piston rod (11) of a hydraulic cylinder (10). In the position shown in Fig. 1 of Schaible the lost-motion connection provided by (12) is not operative. Rib (15) thereby provides a firm, mechanical connection from rear part (3) to the hook or latch (8). Again, in this position, the latch is firmly against its keeper (not numbered). The firm, mechanical connection thereby extends to the front part (2) via the latch and keeper. As Schaible states in column 4, lines 10-11, "**parts 2 and 3 are automatically locked together when piston rod 11 is moved in.**" Thus there is no "means for increasing the latching force on the latching mechanism as a bale in the baling chamber increases in size" as called for in independent claims 1 and 6. Language of similar purport is also in independent claim 11.

While it is true Schaible discloses the use of a tension spring (6) for directionally biasing the hook (8) into engagement with the keeper, the spring serves no other function. Imagine, if you will, that the hydraulic cylinder (10) is in a "float" mode in the Fig. 1 position. It can be seen that parts (2) and (3) are locked together by the members (12), (15), and (8) extending between bolt (14) and the unnumbered keeper. The tension spring (6) does not increase a latch force because the tension forces in the spring (6) cannot increase.

In contrast, Applicant's invention includes a structure wherein "[t]he force effective on the pawl 28 increases proportionately with the upward pivoting of the tension arm 18 as the diameter of the round bale 16 increases during the course of baling action." Specification, page 4, lines 19-21. As stated in the specification, the hydraulic cylinder 22 is operatively connected to the pivotal arm 19 and to the bell crank 25. The position of the hydraulic cylinder 22 depends on the position of the pivotal arm 19. Moreover, the pivotal arm 19 is connected to the tensioning arms 18 and rotates therewith. Consequently, the hydraulic cylinder 22 moves with the tensioning arms 18. As the tensioning arms 18 rotate upwardly, the pivotal arm 19 pulls via the hydraulic cylinder 22 on the bell crank 25 which in turn pushes on the pawl 28, thereby increasing the latching force as the size of the bale increases.

For reasons given above the independent claims are deemed allowable over the art. The dependent claims add various structural and/or functional features that further distinguish over the art.

Independent claim 18 and dependent claims 19-24 have also been added. These claims are believed to be novel and non-obvious in light of the cited references. None of the references show the unique structural combination as provided in claim 18. Moreover, none of the cited references teach or suggest a way to achieve this unique combination.

In view of the above, Applicant courteously requests reconsideration. It is submitted that this application is now in condition for allowance, and an early notice of allowance is solicited.

Respectfully submitted,



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Version With Markings to Show Changes Made

Following is a marked-up version of the application with all changes shown by conventional comparison (underlining and bracketing):

In the Claims

1. (Twice Amended) In a round baler for bailing harvested crops and having a baling chamber surrounded by a two-part housing of which a front part is rigidly connected to a frame of the baler while a rear part is in the form of a pivotal tailgate, the improvement comprising an actuating mechanism having a plurality of belts and rollers disposed adjacent one another within the baling chamber for enabling baling chamber size to vary when pivoted, and a tensioning arm provided with guide rollers and a pivotal arm, wherein the tensioning arm is pivotally mounted on the frame of the baler via a hydraulic cylinder arranged between the pivotal arm and a first arm of a bell crank, wherein the first end of [a] the bell crank is pivotally mounted on a side wall of the baler's tailgate, and wherein a second arm of the bell crank is operatively engageable with a latching mechanism on a frontal part of the housing and [resilient] means for increasing a latching force on the latching mechanism as a bale in the baling chamber increases in size.

3. (Once Amended) A round baler according to Claim 1, wherein the actuating mechanism includes a plurality of mutually interlinked belts.

4. (Once Amended) A round baler according to Claim 1, wherein a fixed stop is arranged on the tailgate below the second arm of the bell crank.

5. (Once Amended) A round baler according to Claim 1, wherein the means for increasing a latching force on the latching mechanism includes a tension spring arranged between the pivotal arm and a fixed mounting point on the frame of the baler.

6. (Twice Amended) In a round baler for bailing harvested crops and having a baling chamber surrounded by a two-part housing of which a front part is rigidly connected to a frame of the baler while a rear part is in the form of a pivotal tailgate, the improvement comprising an actuating mechanism having a plurality of circulating flat-type belts and pressure rollers disposed adjacent one another within a peripheral region of the baling chamber for enabling baling chamber size to vary when pivoted, and a tensioning arm provided with guide rollers and a pivotal arm, wherein the tensioning arm is pivotally mounted on the frame of the baler via a hydraulic cylinder arranged between the pivotal arm and a first arm of a bell crank, wherein the first end of the bell crank is pivotally mounted on a side wall of the baler's tailgate, and wherein a second arm of the bell crank is connected to a latch which is engageable with a keeper disposed on the frontal part of the housing and [resilient] means for increasing a latching force on the keeper as a bale in the baling chamber increases in size.

8. (Once Amended) A round baler according to Claim 6, wherein the actuating mechanism includes a plurality of mutually interlinked belts.

9. (Once Amended) A round baler according to Claim 6, wherein a fixed stop is arranged on the tailgate below the second arm of the bell crank.

10. (Twice Amended) A round baler according to Claim 6, wherein the means for increasing a latching force on the [latching mechanism] keeper includes a tension spring arranged between the pivotal arm and a fixed mounting point on the frame of the baler.

11. (Twice Amended) A method for bailing harvested crops utilizing a round baler having a baling chamber surrounded by a two-part housing of which a front part is rigidly connected to a frame of the baler while a rear part is in the form of a pivotal tailgate, the method comprising:

pivoting an actuating mechanism having a plurality of belts and rollers disposed adjacent to one another within the baling chamber to vary baling chamber size;

pivotsly mounting a tensioning arm, having guide rollers and a pivotal arm, on the frame of the baler via a hydraulic cylinder arranged between the pivotal arm and a first arm of a bell crank;

interconnecting a latch with a second arm of the bell crank;

engaging [a pawl] the latch with [the latch] a keeper to lock the two-part housing in a closed position; and

increasing [the] a latching force [on the pawl] between the latch and the keeper as the size of the bale increases.

12. (Twice Amended) The method according to Claim 11, including the steps of:

pivotsly mounting the [first arm of a] bell crank on a side wall of the baler's tailgate; and

selectively engaging [a second] an arm of the bell crank with a frontal part of the housing via the latch.

13. (Once Amended) The method according to Claim 11, including providing a plurality of mutually interlinked belts to form part of the actuating mechanism.

15. (Twice Amended) The method according to Claim 11, including arranging a fixed stop [below the second arm of] adjacent the bell crank for engagement when releasing the latch and opening the pivotal tailgate.

16. (Twice Amended) The method according to Claim 11, including arranging a tension spring between the pivotal arm and a fixed mounting point on the frame of the baler for [increasing the force on the pawl as the size of the bale increases] biasing the tensioning arm into a lower end position.

18. (New) A round bailer for bailing harvested crops having a frame, a frontal housing connected to the frame, and a rear housing pivotally connected to the frontal housing, the round bailer including:

a latch pivotally mounted on the rear housing and operatively engaged with the frontal housing when the rear housing is in a closed position;

a bell crank pivotally mounted on the rear housing and having first and second arms, the first arm of the bell crank operatively connected to the latch;

a rotatable tensioning arm operatively connected to the frame;

a pivotal arm rigidly connected to the tensioning arm for rotation therewith;

and

a hydraulic cylinder having first and second ends, the first end operatively connected to the second arm of the bell crank and the second end operatively connected to the pivotal arm; whereby engagement of the hydraulic cylinder disengages the latch from the frontal housing and pivots the rear housing from the closed to an open position.

19. (New) The round bailer according to claim 18, further including a keeper operatively mounted on the frontal housing;

20. (New) The round bailer according to claim 18, wherein the latch has an arcuate end.

21. (New) The round bailer according to claim 20, wherein the arcuate end of the latch engages a cylindrical keeper mounted on the frontal housing.

22. (New) The round bailer according to claim 18, further including a tension spring mounted to the frame and operatively connected to the pivotal arm.

23. (New) The round bailer according to claim 18, further including a fixed stop rigidly connected to the rear housing adjacent the bell crank.

24. (New) The round bailer according to claim 18, further including a rod intermediate the latch and the first arm of the bell crank.